

# THIS WEEK

## EDITORIALS

**LITERATURE** Children's books can mislead on the Moon's phases **p.170**

**WORLD VIEW** Fight back against junk science on the web **p.171**



**VACCINES** Genetic tweaks point towards safer flu jabs **p.172**

## Pet projects need a helping hand

*Clinical trials with cats and dogs offer great promise for animal and human medicine but risk being stifled by overzealous regulations.*

For decades, the usual veterinary response to a pet's unbearable suffering has been the same: the dearly loved animal has been quietly and humanely put to sleep. Yet a new trend has emerged over the past decade or so: in search of hope, or just a few extra months of life, owners have been willing to enrol their pets in experimental trials of new therapies. Science and medicine recognize this, and see a splendid opportunity for both pets and people. Rules must now be adjusted to exploit this potential.

Clinical trials of drugs are increasingly being carried out on pets, particularly dogs and cats. Such trials are analogous to those conducted in people, and yield reliable data that can lead to swifter approval and marketing of new veterinary products. The results can also support the much tougher procedures to approve new treatments for related conditions in people.

It should be a win-win situation. When little Fritzi develops a nasty lump on her neck, or lovable Tom-tom starts walking with a painful limp, a vet can, after diagnosis, offer to recruit them into any relevant clinical trial — with the possibility of a better-than-standard treatment. Veterinary surgeons say that nearly all pet owners give eager informed consent to participate, either in the hope of exploiting that possibility or because, as serial pet owners, they hope that the research will help their next animal.

A forerunner of this trend, and a continuing gold standard, is the US National Cancer Institute's Comparative Oncology Trial Consortium, which has been running for 12 years and recruits pet dogs into specific cancer trials. A dozen trials have been completed and some have supported pharmaceutical-company decisions to drop or pursue candidate drugs for human use. In the past few years, ambitious veterinary institutions around the world have started their own pet trials for conditions from cancer to arthritis and diabetes — and their focus is on both veterinary and human therapies.

Veterinary surgeons are happy because the trials help to speed approval for treatments for their furry patients. Regulators of human medicines are also enthusiastic. They welcome relevant pet clinical-trial data as part of a drug-developer's evidence that a medicine is safe and effective. Pets also offer some very specific advantages. Most tests involve laboratory animals especially bred or modified to represent key aspects of a disease — but pet animals that actually have the condition are the real McCoy. They are genetically diverse, they develop the disease spontaneously and they share the human environment. So pet trials much more closely reflect the real-life situation for people.

Aside from publicly funded trials in some countries, pharmaceutical companies regularly approach veterinary schools for direct collaboration in their drug-discovery programmes. It's a problem, then, that a regulatory gap threatens this work. Unlike the rules for human clinical trials, regulations for veterinary trials are unclear and confused, especially in the European Union.

There are no international guidelines, so some EU countries,

including Austria and the United Kingdom, have chosen to classify pet clinical trials as animal experimentation. As such, they fall under the (rightly strict) 2010 EU directive on the protection of animals used for scientific purposes.

This adds complications that tie the authorities in knots, delaying approval of medicines. For example, the directive is designed for laboratory animals and sets out precise rules for their housing and routine care, something that by definition cannot be controlled for privately owned pets. Moreover, veterinary surgeons in Austria, a country with highly sensitive attitudes to animal rights, say that the definition of the work as an experiment rather than a trial prompts many pet owners to choose euthanasia.

Trial runners in other countries, including Germany and the United States, have more flexibility. One answer to the dilemma might be for the stricter EU countries to reconsider their rigid positions, and loosen their rules for pet trials.

Another is for scientists and veterinary surgeons to lobby for an amendment to the EU directive itself, so that it explicitly excludes pet clinical trials — in the same way that it already excludes trials required for marketing authorization. The legislation is currently under review, so now would be the right time to make the change.

Pet work attracts cute headlines, but it is no curiosity. The research is valuable and deserves support — from both researchers and policymakers. ■

**“Complications tie the authorities in knots, delaying approval of medicines.”**

## Ebb and flow

*Humans cause most changes in Earth's surface water, so its governance must become a priority.*

“Human nature is like water,” the US poet Wallace Stevens wrote. “It takes the shape of its container.” As the political events of 2016 continue to raise questions about that shape and how it is changing, it might seem difficult to redirect attention to water. So delegates gathering in Rabat, Morocco, next month for the eighth meeting of the Water Governance Initiative, run by the Organisation for Economic Co-operation and Development (OECD), deserve acknowledgement at the very least. At the meeting, which falls in the week before the next US president is sworn into office, those hardy souls are set to discuss “raising the profile of water governance in the Global Agenda”.

Yet the importance of water governance, if not its political profile,